



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,297	10/31/2003	Li Tsai	200312179-1	9886
22879	7590	05/05/2006	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				STOYNOV, STEFAN
ART UNIT		PAPER NUMBER		
		2116		

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/697,297	TSAI, LI
Examiner	Art Unit	
Stefan Stoynov	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). {

## Status

1)  Responsive to communication(s) filed on 31 October 2003.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) 1-17 is/are allowed.  
6)  Claim(s) \_\_\_\_\_ is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 31 October 2003 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.

***Allowable Subject Matter***

Claims 1-17 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1:

Lee et al., US Patent Appl. Pub. No. 2002/0116656, teaches a clock skew reduction technique for dynamically estimating the clock delay to each of plurality of nodes incorporating a feedback path to measure the round trip path delay (paragraph 0011, lines 3-7, paragraph 0012, lines 1-9, FIG. 6, FIG. 7). However, Lee does not teach first and second routes for the clock waves between pairs of chips, as required by claim 1.

Amdahl, US Patent No. 6,005,428, teaches a self-aligning clock distribution system where equal delay paths are added to each chip which provide a delay equal to the clock distribution delay of the chip (Abstract, lines 1-14). However, Amdahl does not teach propagating clock waves in opposite directions on first and second routes between a pair of chips, as required by claim 1.

Swarbrick et al., US Patent Appl. Pub. No. 2004/0130367, teaches a clock distribution system for plurality of regions comprising blocks where the clock is synchronized within the respective regions (paragraph 0009, lines 1-9, FIG. 4) Again,

Swarbrick does not teach propagating clock waves in opposite directions on first and second routes between a pair of chips, as required by claim 1.

Applicant's prior art teaches supplying clock waves to different locations on a single integrated chip.

The prior art of record does not teach or suggest individually or in combination the subject matter of claim 1, including "the first and the second routes and the chips being arranged so there is a first clock wave route in a first direction from a first chip of a particular pair to a second chip of that particular pair, and a second clock wave route in a second direction from the second chip of the particular pair to the first chip of the particular pair, the first and second routes having substantially the same geometry and being in close proximity to each other so they have substantially the same effects on clock waves propagating therein in opposite directions".

This application is in condition for allowance except for the following formal matters:

The drawings are objected to because the handwritten references are hard to understand.

The specification is objected to because paragraphs 0031-0034 and paragraphs 0036, 0038, and 0040 include wrong reference numbers or no reference numbers to the corresponding drawings these paragraphs refer to.

Appropriate correction is required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Stoynov whose telephone number is (571) 272-4236. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SS

THUAN N. DU  
PRIMARY EXAMINER